



ATARI® PROGRAM EXCHANGE

Learning



LETTERMAN

Save Letterman's apple by guessing all the letters in the mystery word

Requires:

Cassette (APX-10096): ATARI 410™ Program Recorder
16K RAM

ATARI BASIC Language Cartridge

Diskette (APX-20096): ATARI 810™ Disk Drive
32K RAM

Consumer-written programs for ATARI Home Computers

LETTERMAN

by

Ed Stewart and Ray Lyons

Program and manual contents © 1981 Ed Stewart and Ray Lyons

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Introduction

Overview

Letterman is a word guessing game similar to hangman—except no one is hanged. Instead, *Letterman* uses lively animation, colorful graphics, and sound effects to provide an exciting learning experience. The program contains more than 400 words in three difficulty levels. Either the computer can select a secret word from this list or a friend can type in a word for you to guess. You have six turns in which to guess the word, one letter at a time. You guess by typing a letter on your computer keyboard and watching the results.

Owing to different computer memory requirements, the cassette and diskette versions differ slightly. Both work as described above. However, the diskette version offers some added features. You can request hints if you get stuck. You can choose to play under a time limitation for making each guess. And, the program can keep track of as many as nine players' turns and scores.

When you're familiar with the 400 words in the program's list, you can continue to enjoy *Letterman* by adding to (if your system has 24K of RAM for the cassette version or 32K of RAM for the diskette version) or revising the list, following the instructions in this manual.

Required accessories

ATARI BASIC Language Cartridge

- Cassette version

16K RAM
ATARI 410 Program Recorder

- Diskette version

32K RAM
ATARI 810 Disk Drive

Contacting the authors

Users wishing to contact the authors about *Letterman* may write to them at:

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11025 Sagebrush
Uniontown, Ohio 44685

or call them at:

614/443-2259

216/866-6006

Loading *Letterman* into computer memory

1. Insert the ATARI BASIC Language Cartridge in the cartridge slot of your computer.
2. *If you have the cassette version of Letterman:*
 - a. Connect your program recorder to the computer and to a wall outlet.
 - b. Turn on your computer and your TV set.
 - c. Slide the *Letterman* cassette into the program recorder's cassette holder and press REWIND on the recorder until the tape rewinds completely. Then press PLAY.
 - d. Type CLOAD on your computer and then press the RETURN key two times. The tape will load into computer memory.
 - e. After the tape finishes loading, the word READY will display on your TV screen. Type RUN and press the RETURN key. The program's first display screen will appear on your TV screen.

If you have the diskette version of Letterman:

- a. Turn on your disk drive.
- b. When the BUSY light goes out, open the disk drive door and insert the *Letterman* diskette with the label in the lower right-hand corner nearest to you. Close the door.
- c. Turn on your computer and TV set.
- d. When the READY prompt displays on your TV screen, type RUN "D: LTTRMAN" and press the RETURN key. The program will load into computer memory and start.

The first display screen

After a few seconds, *Letterman* welcomes you with a special musical greeting and title display. Then you select your game option(s)—word difficulty level (and for the diskette version, whether to have hints, the number of players, and whether to have a time limitation).

Word difficulty level

The WORD LEVEL choices appear immediately after the introduction. It looks roughly like this:

SELECT WORD LEVEL
EASY
SO-SO
GOOD LUCK
THEN PRESS START

The orange word (or the lighter shade, if your TV screen is black and white) indicates your currently selected option. Press the SELECT key to change the level until the one you want displays in orange; then press START to go on to the next option.

Diskette version - HINTS, NUMBER OF PLAYERS, and TIME LIMIT options

The diskette version of *Letterman* next asks you to indicate whether you want to play with hints. Press the SELECT key to choose your option (HINTS or NO HINTS), and then press START to continue.

Next, the program asks you to enter the number of players. Your choices are "1 PLAYER" and "2 OR MORE PLAYERS". Press the SELECT key to choose your option and then press the START key to continue.

A third option in the diskette version asks you to indicate whether you want a time limit per guess. Using a time limit can help make a game more fair. Your choices are TIME LIMIT and NO TIME LIMIT. Press the SELECT key to choose your option and then press the START key to continue.

If you chose 2 OR MORE PLAYERS for the SELECT PLAYERS option, the program will now ask you to enter the number of players. Enter a number between 2 and 9 (pressing the RETURN key isn't necessary).

If you chose a TIME LIMIT, the program will next ask you to enter how many *seconds* you want the limit to be. Enter your number and press the RETURN key to go on to the final option.

Selecting the secret word

[*Note for diskette version.* If you choose the 2 OR MORE PLAYERS option, you'll hear a tone and the number of the player flashes on the lower left of your TV screen.]

Letterman next asks you to select a secret word. The message is "ENTER A SECRET WORD...OR SELECT A WORD". You have two choices. You may either enter the secret word yourself (or have another player do so for you to guess), or you may have *Letterman* pick a word for you to guess.

Entering the secret word yourself. You may type a word on your keyboard. When you enter your secret word, it won't display on the TV screen. Instead, blue dashes (or dark shading for black and white TV screens) display, one dash for each letter you type. Your word can be as long as 15 letters. Don't use numbers, punctuation, CTRL characters, or other keys. A buzzer sounds if you press any key other than a letter.

You can erase a letter by backspacing with the DELETE/BACK S key. When you've entered the word correctly, press the START key to begin playing. (*Note.* You can change your mind and have *Letterman* select your secret word instead by pressing the SELECT key at any time before pressing the START key. The program will then ignore anything you've typed in and pick a word for you.)

Letting the computer select the secret word. To tell *Letterman* to pick a secret word for you, press the SELECT key. *Letterman* will select a word randomly from the difficulty level you chose earlier. Orange (or light shading for black and white TV screens) representing the number of letters in the secret word display on the screen. (*Note.* Once you tell *Letterman* to select a word for you, you can't change your mind and enter your own.)

Letterman won't repeat words during a game session. However, he may do so if you rerun the program.

Playing Letterman

Guessing the secret word

Once you've picked your options, the alphabet displays at the top of your TV screen. For the cassette version and for the 1 PLAYER option in the diskette version, a "W" (for "wins") and "L" (for "losses") display to the right of the alphabet for scoring. For the 2 OR MORE PLAYERS in the diskette version, the "W"/"L" information displays briefly at the bottom right of the screen following each player's turn.

It's now your turn to guess a letter. Type in any letter (letters only). If your letter is part of the secret word, the letter replaces the dash(es) corresponding to where it belongs in the word (it can replace one or more dashes), and it also disappears from the alphabet display. *Letterman* does a little "dance for joy", since your correct guess has kept the arrow from coming closer to his juicy apple! However, if you guess incorrectly, the arrow swishes towards the apple on *Letterman's* head and the letter you chose disappears from the alphabet display.

You may make six (6) incorrect guesses before *Letterman* ends your turn and displays the secret word.

Hints in diskette version

If you selected to use HINTS, why not try one when you get stuck? Type in a question mark by pressing the SHIFT and ? keys and then watch the screen. *Letterman* chooses the hints and may give you the same hint twice (too bad . . .). Here are the kinds of hints you can expect:

FIRST LETTER = (first letter of secret word)

LAST LETTER = (last letter of secret word)

VOWELS = (total A,E,I,O,U, and Y's in the word)

HARD ONES = (total J, Q, V, X, and Z's in the word)

You're allowed only two hints per turn.

Time limit for diskette version

If you're playing with a time limit, *Letterman* automatically starts keeping time from the moment the alphabet displays on your screen until you type in your first guess, and it times all other guesses.

Letterman notifies you when you have 30 seconds left to type in your guess. A tone sounds and a countdown displays on the screen. If you chose a time limit *less than* 30 seconds, the countdown displays as soon as a turn begins. If you chose a time limit *more than* 30 seconds, *Letterman* keeps time quietly until it reaches the 30-second mark.

If you don't enter your guess before the count reaches zero, you lose that guess. A buzzer sounds and the arrow swishes toward the apple! *Letterman* then resets the timer for your next guess and again warns you when you have 30 seconds left for guessing.

You can play *Letterman* as long as you like. To change game options during the game, see the section below.

Giving up

If you don't want to continue guessing during a turn, you may end your turn by pressing the CTRL and Q keys, for "quit". *Letterman* then displays the secret word and adds 1 to your "loss" score. However, *Letterman's* apple escapes the arrow!

Changing options during a game

You may change any options after finishing a turn, when the "ENTER A SECRET WORD . . . OR SELECT A WORD" message displays. Press the OPTION key instead of the SELECT or START keys to tell *Letterman* to return to the options. To change one option, you must go through *all* the options for the cassette or diskette version. *Letterman* resets all scores to zero when you change options.

Scoring

When you guess a word, *Letterman* does a colorful dance, among other surprises. When you miss a word, *Letterman* becomes gloomy and flees from the poor squished apple.

Each word you guess earns you one point in your WIN column. Each word you fail to guess results in one point in your LOSS column. Your score displays immediately in the cassette version and in the 1 PLAYER option of the diskette version. It displays after each turn for the 2 OR MORE PLAYER option of the diskette version.

Restarting or replaying *Letterman*

You can interrupt *Letterman* at any time and start over by pressing the SYSTEM RESET key. When the READY prompt displays, type RUN and press the RETURN key.

If you accidentally stop *Letterman* by pressing the BREAK key, flashing vertical strips will appear on your screen. Use the SYSTEM RESET key, RUN command, and RETURN key, as described above, to start again.

Problems

You may encounter one problem with *Letterman*. If you accidentally press the ATARI Inverse key or the CAPS/LOWR key in response to the message ENTER A SECRET WORD . . . OR SELECT A WORD, the words "ENTER" and "OR" will stop flashing because the computer senses a key has been pressed, but it has a bit of trouble with these two keys. It's expecting you to press a letter key.

If you meant to type in your own secret word, go ahead and type it in and then press the START key. If you wanted *Letterman* to select the word, type in any letter and then press the SELECT key.

You needn't worry if you press either of these two keys during game play. The program will continue to run normally.

Advanced technical information

Changing or adding words to *Letterman*

You can change the word lists contained in the *Letterman* program.

Important. Don't change your original version of *Letterman*. Make your modifications on a copy of the program.

In the subroutine beginning at line 4000, the word list for any given difficulty level is assigned to the string "W\$" (see lines 4000-4299). Difficulty levels are divided as follows:

Table 1 Word List Sections of Program

Difficulty level	Line nos.	# Words in section (cassette)	# Words in section (diskette)
EASY	4000-4099	123	126
SO-SO	4100-4199	126	138
GOOD LUCK	4200-4299	128	148

Changing the word list

1. To change words, LIST the program on your TV screen (e.g., use the command LIST 4000,4099 to list the line numbers for the EASY words). These lines will have the following form:

Line no. WS(Z,Z+WL)="words ..."

2. Type your new words right over the words appearing between the quotation marks. *Leave at least one space* between each word you type. Be careful not to go past the final quotation mark, unless room remains on that logical line to extend the string. Remember to use the final quotation mark. Also, leave at least *one space* before the quotation mark ending each logical line.
3. Then use the SAVE command to store this modified version of the program (refer to the *ATARI BASIC Reference Manual* for more information about saving a program). If you change the total number of words in any of the three levels, you must also change the value of the variable WCNT, as described in the next section.

Adding to the word list

To add words to *Letterman*, you must have at least 24K of RAM for the cassette version or 32K of RAM for the diskette version. The maximum number of words this program supports for each difficulty level is 255. The program won't work correctly if you extend this limit.

Note. If you add words to a copy of this program and save such a revision, the cassette version won't load in 16K of RAM.

1. You add more words to the program by adding *lines*. For any difficulty level, choose new line numbers for your lines that are within the ranges appearing in Table 1 above. For example, to add new words to the EASY level, choose line numbers between 4026 (the first available line number within this range) and 4098 (the last available line number within this range).

Use this form to enter your new lines:

new line no. W\$(Z,Z+WL)="enter new words here"

You may enter up to one logical line's worth of words within the quotation marks. Leave at least *one space* between each word you type within the quotation marks and leave one space before the final quotation mark in each new logical line.

2. The program can accommodate up to 255 words in each difficulty level. The number of words in a section (see Table 1) is stored in the variable WCNT. You'll need to update this value by LISTing to the screen the last line of the word level section to which you're adding. This line will be 4099 for EASY, 4199 for SO-SO, and 4299 for GOOD LUCK. It will have this format (where "X" is the appropriate hundreds digit):

4X99 WCNT=(no. of words in section):RETURN

Change the number to the right of the equal sign to reflect the total number of words now in that section. For example, if WCNT=138 *before* you added twenty words, change the value of WCNT to 158.

3. SAVE this expanded version on a different cassette tape or under a different diskette file name. Refer to the *ATARI BASIC Reference Manual* for more information about saving programs.

Machine language subroutine to select the secret word

Owing to the great length of the string variable W\$, including a machine language subroutine to search this string was necessary. (BASIC took too long.) This routine is included here because it's general enough to be useful for other purposes. The routine chooses the Nth word from a string and returns its relative byte offset within that string. The calling sequence is:

OFFSET=USR(1536,ADR(W\$),N)

where N is the word number to select relative to one, and OFFSET is set to equal the displacement within W\$ of the Nth word. OFFSET is relative to zero. To save space, this routine is contained in *Letterman* in character form in line 9120. ATASCII codes of these characters are POKEd into locations 1536-1602 (decimal). The program listing appears on the following page.

Machine Language Listing

DATA	ADDR	LABEL	OP CODE	OPERAND	COMMENTS
104	600		PLA		PULL OFFPARM COUNT
104	601		PLA		PULL
133,204	602		STA	\$204	OFF
104	604		PLA		STRING ADDR
133,203	605		STA	\$203	AND SAVE IT
104	607		PLA		HI-BYTE OF "n" IS ZERO
133,212	608		STA	\$212	CLEAR RESULT
133,213	60A		STA	\$213	AREA
168	60C		TAY		AND INDEX
104	60D		PLA		GET WORD COUNT
133,205	60E		STA	\$205	AND SAVE IT
234	610		NOP		RESERVE FOR BUGS
177,203	611	SCAN1	LDA	\$203,Y	GET STRING VALUE
201,32	613		CMP	" "	Q. IS IT BLANK
208,16	615		BNE	SCAN2	A. YES, DO WORD COUNT
230,212	617	SCAN1A	INC	\$212	+1 TO STRING LENGTH
208,2	619		BNE	B1	NO OVERFLOW
230,213	61B		INC	\$213	+1 TO HI-ORDER BYTE
200	61D	B1	INY		+1 TO INDEX
208,2	61E		BNE	B2	NO OVERFLOW
230,204	620		INC	\$204	+1 TO ADDR HI-ORDER BYTE
76,17,6	622	B2	JMP	SCAN1	CONTINUE SCAN
234	625		NOP		RESERVE FOR BUGS
234	626		NOP		RESERVE FOR BUGS
198,205	627	SCAN2	DEC	\$205	REDUCE WORD COUNT
208,1	629		BNE	B3	MORE WORK TO DO
96	62B		RTS		RETURN IF NO MORE WORDS
230,212	62C	B3	INC	\$212	+1 TO STRING LENGTH
208,2	62E		BNE	B4	NO OVERFLOW
230,213	630		INC	\$213	+1 TO HI-ORDER BYTE
200	632	B4	INY		+1 TO INDEX
208,2	633		BNE	B5	NO OVERFLOW
230,204	635		INC	\$204	+1 TO ADDR HI-ORDER BYTE
177,203	637	B5	LDA	\$203,Y	GET STRING BYTE
201,32	639		CMP	" "	Q. IS IT BLANK
208,3	63B		BNE	B6	A. NO GO SCAN FOR A BLANK
76,17,6	63D		JMP	SCAN1A	GO BACK TO BLANKS SCAN
76,44,6	640	B6	JMP	B3	CONTINUE NON-BLANKS SCAN



Review Form

We're interested in your experiences with APX programs and documentation, both favorable and unfavorable. Many of our authors are eager to improve their programs if they know what you want. And, of course, we want to know about any bugs that slipped by us, so that the author can fix them. We also want to know whether our

instructions are meeting your needs. You are our best source for suggesting improvements! Please help us by taking a moment to fill in this review sheet. Fold the sheet in thirds and seal it so that the address on the bottom of the back becomes the envelope front. Thank you for helping us!

1. Name and APX number of program.

2. If you have problems using the program, please describe them here.

3. What do you especially like about this program?

4. What do you think the program's weaknesses are?

5. How can the catalog description be more accurate or comprehensive?

6. On a scale of 1 to 10, 1 being "poor" and 10 being "excellent", please rate the following aspects of this program:

- _____ Easy to use
- _____ User-oriented (e.g., menus, prompts, clear language)
- _____ Enjoyable
- _____ Self-instructive
- _____ Useful (non-game programs)
- _____ Imaginative graphics and sound

7. Describe any technical errors you found in the user instructions (please give page numbers).

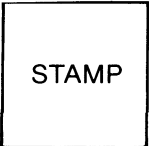
8. What did you especially like about the user instructions?

9. What revisions or additions would improve these instructions?

10. On a scale of 1 to 10, 1 representing "poor" and 10 representing "excellent", how would you rate the user instructions and why?

11. Other comments about the program or user instructions:

From



ATARI Program Exchange
P.O. Box 3705
Santa Clara, CA 95055

[seal here]

LETTERMAN

by Ed Stewart and Ray Lyons

Recommended for ages 8 and up/Written in BASIC

- Colorful animation and lively sounds
- Friendly theme
- Nearly 400 words with three selectable difficulty levels—or add your own words

Has it ever bothered you that a game as fun as hangman has a violent underlying premise? Well, here's a variation on the traditional paper and pencil, word-guessing game that replaces a dismal outcome with lively animation, colorful graphics, and amusing sound effects. The only object in danger is the apple on Letterman's head! You have six turns in which to guess the secret word, one letter at a time. Either the program or another player can choose the word. *Letterman* contains nearly 400 words within three selectable difficulty levels. And when you've exhausted this list you can continue to enjoy *Letterman* because the user manual contains easy-to-follow instructions for adding to (if your system has more than 16K of RAM) or revising *Letterman's* list of words.

Owing to different computer memory requirements, the cassette and the diskette versions differ slightly. Both versions work as described above. However, the diskette version offers some added features. You can request hints if you get stuck. You can also choose to play under a time limitation for making each guess. And the program can keep track of as many as nine players' turns and scores.

The authors invite comments by mail and telephone.

RAY LYONS and ED STEWART



About the authors



Photos by Lynn Shaulis

Ray Lyons and Ed Stewart have been friends for twenty years, since they were Boy Scouts together. They both acquired their ATARI Home Computers two years ago. During one get-together of their families, they played Atari's *Hangman*. They decided to try their own version, and during an all-night programming session, they created *Letterman*. Instead of adding another limb to a hanging person, Ray and Ed's version shoots an arrow at an apple perched on top of Letterman's head. Ed, a systems programmer for a large tire manufacturer in Akron, Ohio, has written articles about ATARI Computers for computer magazines. Ray works as a writer for a large computer library center in Columbus, Ohio.

APX ATARI®
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P.O. Box 3705
Santa Clara, CA 95055

REVIEW COMMENTS

The graphics features and lively, friendly approach used in every aspect of *Letterman* make this program especially appealing.

The user manual is very good.

Cassette: version 1 Diskette: version 1
Edition B

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